



Boom

Base

FEATURES

- Easy to Install
- Environmentally Sealed Package
- J1939 Standard CAN Bus interface
- 'Electronic Bubble' display
- -40 to +85C temperature range
- Configuration settings available through J1939
- Wide Sensing Angles

DESCRIPTION

The Joral J1939 Boom Angle Sensor package is a rugged-duty electronic sensor designed to measure base and boom angle.

The package is provided as a pre-wired set of two calibrated, fully sealed solid-state sensors. The base sensor mounts to the cab or platform and the boom sensor mounts to the boom. The device automatically compensates for changes in base angle to output relative boom angle. Additionally, measured angles for the base 'pitch' and 'roll' are provided.

LED indicators on the base sensor display real-time status for power, CAN and sensor angle. Sensors are packaged in small, lightweight, rugged box with mounting tabs and standard connections.

APPLICATION

The **Joral Boom Angle Sensor** consists of two independent 3-axis incline sensors. Each sensor uses readings to compute an angular position over a wide range, nearly +/- 90 degrees. The base sensor reads the boom sensor and computes the relative boom angle. The base and boom angles are sent on the J1939 CAN bus to the controller or display. These outputs can be used for display, cab leveling, boom control or unique loading algorithms.

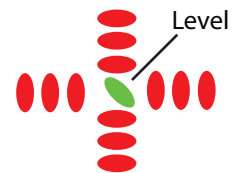


Installation is easy. The base and boom sensors are connected to each other through a flexible, protected 32" long cable. Typically, the base sensor is mounted to the machine cab or platform on a level surface near the boom angle joint. The boom sensor is mounted on the boom. The base sensor has a standard M12 connector. Both sensors are pre-calibrated at the factory, although a post-installation calibration can be performed.

Electronic Bubble

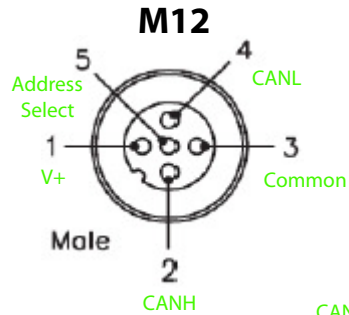
The "Electronic Bubble" provides a handy installation and troubleshooting tool for

a "sanity check" on the base sensor. Red LED indicators display an out of level condition in the X and Y directions and a green LED shows the base sensor is level.

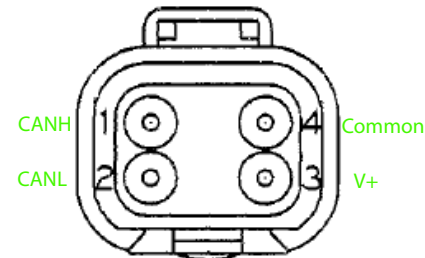


CONNECTIONS (Base)

Signal	M12 Pin #	Deutsch Pin #
V+	1	3
CANH	2	1
Common	3	4
CANL	4	2
Address Select (optional)	5	-



Deutsch DT04-4P



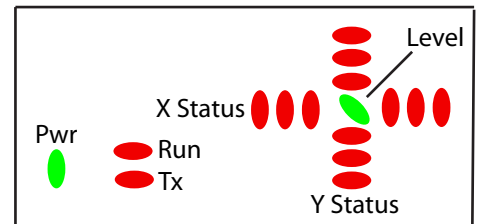
LED INDICATORS (Base)

X and Y Status Indicators - The LED grid displays the magnitude that the sensor is out of level for X and Y. The green Level LED is on if the sensor is level within the LED Weight setting.

Pwr LED - On solid when voltage is applied to the device.

Run LED - Blinks to show sensor is operating.

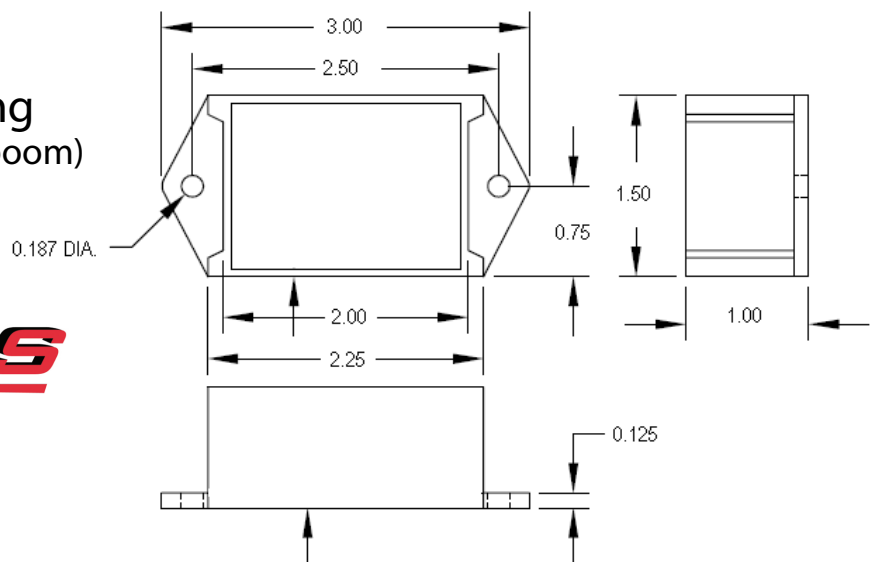
Tx LED - On when the sensor is sending J1939 message.



SPECIFICATIONS

Models	BA-J1939- 5M12	BA-J1939-DT04-4P
Connector	5 pin male M12	4 pin Deutsch
Interconnection	32" braided multiconductor cable	
Power	6 to 30 VDC (90 milliamps)	
Weight	Base - 3 oz; Boom - 2 oz	
Mounting	Mounting Tabs (0.187 diameter holes)	
Resolution	0.3 degrees	
Operating Temperature	-40C to +85C	
J1939 Source Address	219	
J1939 PGN	65467	
J1939 Data	10 bit angle per axis, 0 to 1023	
J1939 Rate	50 msec	
J1939 Priority	4	

Housing (Base and boom)



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